

Application No. 09/743,818  
Response to Office Action dated 11/29/2006  
January 29, 2007

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claims 1-92. Canceled.

93 (Currently Amended). A method of reducing the susceptibility susceptibility of tropoelastin to cleavage by thrombin, kallikrein or serum, wherein the arginine residue corresponding to 515 of SEQ ID NO:4 is replaced with alanine.

Claims 94-111. Cancelled.

112 (Currently Amended). A method of reducing the susceptibility of tropoelastin to thrombin cleavage comprising replacing the alanine at any one of residues 593, 595, 596 or 597 516, 517 or 518 of SEQ ID NO:4 with another amino acid.

113 (Currently Amended). A method according to claim 112, wherein the alanine corresponding to residue 593 516 of SEQ ID NO:4 is replaced with another amino acid.

Claim 114. Cancelled.

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115 (Currently Amended). A method of reducing the susceptibility of tropoelastin to proteolysis by thrombin, kallikrein or serum, comprising mutating one or more of the amino acid residues of the amino acid sequence corresponding to SEQ ID NO: 106 (RAAAG) in the tropoelastin, so that susceptibility of the tropoelastin to cleavage by thrombin, kallikrein or serum is reduced.

116 (Currently Amended). The method of claim 115, wherein before the mutation the tropoelastin has the amino acid sequence of SEQ ID NO: 4 or 5.

117 (Currently Amended). The method of claim 116, wherein the amino acid sequence corresponding to SEQ ID NO: 106 (RAAAG) is the amino acid sequence at position 515 to position 519 of SEQ ID NO: 4 or 5.

118 (Currently Amended). The method according to claim 115 wherein one amino acid residue in the amino acid sequence corresponding to SEQ ID NO: 106 (RAAAG) is mutated.

119 (Currently Amended). The method according to claim 115, wherein the arginine residue of the amino acid sequence corresponding to SEQ ID NO: 106 (RAAAG) is mutated.

120 (Currently Amended). The method of claim 115, wherein the arginine residue of the amino acid sequence corresponding to SEQ ID NO: 106 (RAAAG) is replaced with an alanine residue.

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121 (Currently Amended). The method of claim 115, wherein the arginine residue of the amino acid sequence corresponding to SEQ ID NO: 106 (RAAAG) is replaced with a leucine residue.

122 (Previously Presented). The method of claim 115, further comprising mutating one or more of the amino acid residues of the amino acid sequence corresponding to SEQ ID NO: 8 of SEQ ID NO: 4 or 5, to thereby further reduce the susceptibility of the tropoelastin to cleavage by thrombin.

123 (Currently Amended). The method of claim 115, wherein before the mutation the tropoelastin has the amino acid sequence of SEQ ID NO: 4, and further comprising mutating one or more of the amino acid residues of the amino acid sequence corresponding to SEQ ID NO: 10 of SEQ ID NO: 4, to thereby further reduce the susceptibility of the tropoelastin to cleavage by kallikrein.

124 (Previously Presented). The method of claim 115, further comprising mutating one or more of the amino acid residues of the amino acid sequence corresponding to SEQ ID NO: 14 of SEQ ID NO: 4 or 5, to thereby further reduce the susceptibility of the tropoelastin to cleavage by serum.

125 (Currently Amended). The method of claim 115, wherein before the mutation the tropoelastin has the amino acid sequence of SEQ ID NO: 4, and further comprising mutating one or more of the amino acid residues of the amino acid sequence corresponding to SEQ ID NO: 15 or 16 of SEQ ID NO: 4, to thereby further reduce the susceptibility of the tropoelastin to cleavage by serum.

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126 (Previously Presented). The method of claim 115, further comprising mutating one or more of the amino acid residues of the amino acid sequence corresponding to SEQ ID NO: 11 or 12 of SEQ ID NO: 4 or 5, to thereby reduce the susceptibility of the tropoelastin to cleavage by plasmin.

127 (Currently Amended). The method of claim 115, wherein before the mutation the tropoelastin has the amino acid sequence of SEQ ID NO: 4, and further comprising mutating one or more of the amino acid residues of the amino acid sequence corresponding to SEQ ID NO: 13 of SEQ ID NO: 4, to thereby reduce the susceptibility of the tropoelastin to cleavage by gelatinase B.

128 (Previously Presented). A method of reducing the susceptibility of tropoelastin to proteolysis by thrombin, kallikrein or serum, consisting of mutating one or more of the amino acid residues corresponding to position 515 to 521 of SEQ ID NO: 4 in the tropoelastin, so that susceptibility of the tropoelastin to cleavage by thrombin, kallikrein or serum is reduced.

129 (Previously Presented). The method of claim 128, wherein the amino acid residue at position 515 is arginine and is mutated.

130 (Previously Presented). The method of claim 128, wherein the amino acid residue at position 515 is arginine and is replaced with alanine or leucine.

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131 (Currently Amended). A method of reducing the susceptibility of tropoelastin to proteolysis by thrombin, kallikrein or serum protease, consisting of mutating arginine of the amino acid sequence ~~RAAAAGLG~~ in the tropoelastin corresponding to position 515 to 521 of SEQ ID NO: 4, so that susceptibility of the tropoelastin to cleavage by thrombin, kallikrein or serum is reduced.

Claim 132. Cancelled.

133 (Currently Amended). The method of claim 131, wherein the R in the amino acid sequence ~~RAAAAGLG~~ is replaced with A or L.

134 (Previously Presented). The method according to claim 131 wherein the tropoelastin is human tropoelastin.

135 (Previously Presented). A tropoelastin molecule produced by the method of claim 115.